

That Which is Claimed is:

1. A container, comprising:
a receptacle having side walls, a floor, and an open end;
a cover pivotally attached to one of the walls of the receptacle, the cover being
5 movable between an open position, in which the open end of the receptacle can be accessed, and a closed position, in which the cover overlies the open end of the receptacle;
a locking pin mounted on one of the cover and a receptacle walls; and
at least one locking system for maintaining the cover in the closed position, the
locking system comprising:
10 a release member attached to the other of the cover and a receptacle wall;
a connecting member attached to the release member; and
a rotary unit including a base plate having a slot, a rotary member rotatably
mounted with the base plate about a first axis of rotation, the rotary member including
a plurality of fingers extending radially outwardly from a central portion thereof and
15 an engagement portion fixed to the central portion, and a pawl member pivotally
mounted with the base plate about a second axis of rotation and coupled with the
connecting member;
wherein when the cover is in the closed position, the locking pin is received within the
slot of the rotary unit base plate and engages one of the fingers of the rotary member, and the
20 pawl member engages the engagement portion to prevent rotation thereof, and wherein
actuation of the release member disengages the pawl member from the engagement portion,
thereby enabling the rotary member to rotate freely relative to the base plate, which rotation
disengages the locking pin from the rotary member and enables the cover to move to the open
position.
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2. The container defined in Claim 1, wherein the rotary unit includes a biasing
member that biases the pawl member to engage the engagement portion of the rotary
member.
- 30 3. The container defined in Claim 1, wherein the container has two side walls,
and each of the side walls of the container includes a winged portion that defines a lateral
storage region.

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4. The container defined in Claim 3, wherein a biasing unit that biases the cover toward the open position is mounted in one of the lateral storage regions.

5 5. The container defined in Claim 4, wherein the biasing unit is a gas cylinder.

6. The container defined in Claim 1, wherein the position of the locking pin is adjustable relative to the cover.

10 7. The container defined in Claim 6, wherein the position of the locking pin is adjustable along an axis generally parallel to the slot in the rotary unit base plate.

15 8. The container defined in Claim 1, wherein the locking pin is pivotally mounted to the cover about an axis that is generally perpendicular to the slot in the rotary unit base plate.

9. The container defined in Claim 8, wherein the locking pin is biased toward a rest position by a biasing member.

20 10. The container defined in Claim 6, wherein the locking pin is mounted to the cover with a mounting bracket having an oblong aperture, and further comprising a generally square slide member that fits within the aperture to which the pin is mounted.

25 11. The container defined in Claim 10, wherein the slide member includes an eccentrically-positioned opening through which the locking pin extends.

12. The container defined in Claim 1, wherein the rotary member includes at least four fingers.

30 13. The container defined in Claim 1, wherein the rotary member includes at least six fingers.

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14. The container defined in Claim 1, wherein the rotary member is formed of multiple layers that are disposed normal to the first axis of rotation.

15. The container defined in Claim 14, wherein the multiple layers include outer 5 layers that form the plurality of fingers and inner layers sandwiched by the outer layers that form the engagement portion.

16. The container defined in Claim 1, wherein the release member is a palm button.

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17. The container defined in Claim 3, further comprising a second release member, and wherein each of the release members is mounted on a respective winged portion.

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18. The container defined in Claim 3, wherein the at least one locking system is two locking systems, and further comprising a coupling member that is attached to and extends between the pawl members of the locking systems.

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19. The container defined in Claim 18, wherein for each locking system, the base plate includes two pawl post apertures, and the pawl member includes two pawl posts, each of which extends through a respective pawl post aperture, and wherein the connecting member of each locking system is coupled to one of the pawl posts of each locking system, and the coupling member extends between the other of the pawl posts of each locking system.

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20. The container defined in Claim 1, wherein the rotary member fingers are lobed.

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21. The container defined in Claim 1, wherein the engagement portion of the rotary member is a circular gear with teeth positioned around its periphery.

22. The container defined in Claim 21, wherein the circular gear includes at least twelve teeth.

23. A rotary unit for use with a locking system, comprising:
a base plate having a slot;
a rotary member rotatably mounted with the base plate about a first axis of rotation,
5 the rotary member including a plurality of fingers extending radially outwardly from a central portion thereof and an engagement portion fixed to the central portion; and
a pawl member pivotally mounted with the base plate about a second axis of rotation and adapted for coupling with a connecting member, the pawl member including an engagement projection that selectively engages the engagement portion of the rotary member
10 to prevent rotation of the rotary member in a first rotative direction but permit free rotation of the rotary member in a second rotative direction that is opposite the first rotative direction.
24. The rotary unit defined in Claim 23, further comprising a biasing member that biases the pawl member to engage the engagement portion of the rotary member.
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25. The rotary unit defined in Claim 23, wherein the rotary member includes at least four fingers.
26. The rotary unit defined in Claim 23, wherein the rotary member includes at
20 least six fingers.
27. The rotary unit defined in Claim 23, wherein the rotary member is formed of multiple layers that are disposed normal to the first axis of rotation.
- 25 28. The container defined in Claim 27, wherein the multiple layers include outer layers that form the plurality of fingers and inner layers sandwiched by the outer layers that form the engagement portion.
29. The rotary unit defined in Claim 23, wherein the base plate includes two pawl
30 post apertures, and the pawl member includes two pawl posts, each of which extends through a respective pawl post aperture.

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30. The rotary unit defined in Claim 23, wherein the rotary member fingers are lobed.
- 5 31. The rotary unit defined in Claim 23, wherein the engagement portion of the rotary member is a circular gear with teeth positioned around its periphery.
- 10 32. The rotary unit defined in Claim 23, wherein the circular gear includes at least twelve teeth.
- 15 33. A container, comprising:
a receptacle having walls, a floor, and an open end;
a cover pivotally attached to one of the walls of the receptacle, the cover being movable between an open position, in which the open end of the receptacle can be accessed, and a closed position, in which the cover overlies the open end of the receptacle;
a locking pin assembly fixed to one of the cover and a receptacle wall, the locking pin assembly comprising:
a mounting bracket fixed to the cover;
a striker plate mounted to the mounting bracket and movable relative thereto;
and
20 a locking pin attached to the striker plate; and
at least one locking system for maintaining the cover in the closed position, the locking system comprising:
a release member attached to the other of the cover and a receptacle wall;
a connecting member attached to the release member; and
25 a rotary unit including a base plate having a slot, a rotary member rotatably mounted with the base plate about a first axis of rotation, the rotary member including at least two fingers and an engagement portion, and a pawl member pivotally mounted with the base plate about a second axis of rotation and coupled with the connecting member;
30 wherein when the cover is in the closed position, the locking pin is received within the slot of the rotary unit base plate and engages one of the fingers of the rotary member, and the pawl member engages the engagement portion to prevent rotation thereof, and wherein

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actuation of the release member disengages the pawl member from the engagement portion, thereby enabling the rotary member to rotate relative to the base plate, which rotation disengages the locking pin from the rotary member and enables cover to move to the open position.

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34. The container defined in Claim 33, wherein the striker plate is pivotally mounted to the mounting bracket for rotation about a third axis that is generally perpendicular to the slot of the rotary unit base plate.

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35. The container defined in Claim 34, wherein the locking pin is biased toward a rest position by at least one biasing member.

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36. The container defined in Claim 35, wherein the at least one biasing member is a helical spring that has a longitudinal axis that is generally parallel with the third axis of rotation.

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37. The container defined in Claim 35, wherein the at least one biasing member is two helical springs with axes of rotation that are generally parallel to the slot of the rotary base plate.

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38. A container, comprising:

a receptacle having walls, a floor, and an open end;

a cover pivotally attached to one of the walls of the receptacle, the cover being movable between an open position, in which the open end of the receptacle can be accessed, and a closed position, in which the cover overlies the open end of the receptacle;

a locking pin assembly fixed to the cover, the locking pin assembly comprising:

a mounting bracket fixed to the cover, the mounting bracket having an oblong aperture;

a slide plate residing within the aperture and slidable relative thereto, the slide plate including an opening; and

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a locking pin inserted in the slide plate opening; and

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at least one locking system for maintaining the cover in the closed position, the locking system comprising:

a release member attached to one of the receptacle walls;

a connecting member attached to the release member; and

5 a rotary unit including a base plate having a slot, a rotary member rotatably mounted with the base plate about a first axis of rotation, the rotary member including at least two fingers and an engagement portion, and a pawl member pivotally mounted with the base plate about a second axis of rotation and coupled with the connecting member;

10 wherein when the cover is in the closed position, the locking pin is received within the slot of the rotary unit base plate and engages one of the fingers of the rotary member, and the pawl member engages the engagement portion to prevent rotation thereof, and wherein actuation of the release member disengages the pawl member from the engagement portion, thereby enabling the rotary member to rotate relative to the base plate, which rotation

15 disengages the locking pin from the rotary member.

39. The container defined in Claim 38, wherein an opening in the striker plate is offset from the center of the striker plate.

20 40. The container defined in Claim 38, wherein the slide plate is generally square.

41. A locking pin assembly, comprising:

a mounting bracket adapted to be mounted on one of the cover or receptacle of a container;

25 a striker plate that is pivotally mounted to the mounting bracket for rotation about an axis of rotation; and

a locking pin that is mounted to the striker plate, the locking pin extending generally parallel to the axis of rotation.

30 42. The locking pin assembly defined in Claim 41, further comprising at least one biasing member attached to the mounting bracket and to the striker plate, the biasing member resisting rotation of the striker plate about the axis of rotation.

43. The locking pin assembly defined in Claim 42, wherein the at least one biasing member comprises a helical spring having an axis that is generally parallel to the axis of rotation of the striker plate.

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44. The locking pin assembly defined in Claim 42, wherein the at least one biasing member comprises two helical springs, each of which has an axis and is attached to the mounting bracket and the striker plate such that the spring axis is generally perpendicular to the axis of rotation of the striker plate.

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45. A rotary unit for use with a locking system, comprising:
a base plate having a slot;
a rotary member rotatably mounted with the base plate about a first axis of rotation, the rotary member including a plurality of fingers extending radially outwardly from a central portion thereof and an engagement portion fixed to the central portion;
a pawl member pivotally mounted with the base plate about a second axis of rotation and adapted for coupling with a connecting member, the pawl member including an engagement projection that selectively engages the engagement portion of the rotary member to prevent rotation of the rotary member in a first rotative direction but permit free rotation of the rotary member in a second rotative direction that is opposite the first rotative direction;
and
a retaining member pivotally mounted with the base plate about a second second axis of rotation, the retaining member being configured to engage the pawl member such that rotation of the pawl member in a first pivoting direction induces rotation of the retaining member in a second pivoting direction that is opposite the first pivoting direction, the retaining member including a finger configured to engage a locking pin in the slot of the base plate.